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# TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR – BUREAU OF LAND MANAGEMENT

Range Entomology

## BLACK GRASS BUG

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Range resource losses have been attributed to an insect commonly referred to as the Black Grass Bug or the Crested Wheatgrass Bug (Labops Hesperius Uhler). The Black Grass Bug is attacking wheatgrasses in epidemic numbers in several western states. Labops hesperius, is a true bug, a member of the order Hemiptera and the Miridae family (5).

Without question, some of these epidemics are due to the establishment of introduced grass monocultures used to complement indigenous vegetative species. Observations at this time point to a well-balanced plant community containing a variety of plant species as the best defense against the Black Grass Bug. Drought appears to reduce Labops populations.

The total effects of these insects on range areas are yet unknown. For at least 27 years there have been periodic reports of range grass losses in Utah (3)(5). In addition to feeding on crested wheatgrass the grass bug has been found attacking other species including pubescent wheatgrass, intermediate wheatgrass, prairie Junegrass, Sandberg bluegrass, needle-and-thread grass, and smooth brome. Observations of infestations on Great Basin wild rye in pure stands have also been reported (3)(1).

The grass bug has large eyes, a proboscis, mouth parts developed for sucking and piercing, large antennae, one pair of wings and six legs. It is about 0.25 inches long and is dull black in color.

The female of the species has an ovapositor on its posterior underpart used to push its eggs into the tissues of the plant for overwintering. Each egg measures 3/64 of an inch in size and a female may lay five to eight eggs. The eggs are quarter-moon shaped with a cap over one end. Eggs found on intermediate wheatgrass and crested wheatgrass were found on the leaves below the nodes on the lower sheath. The nymph that hatches has six legs, is pale green in color, which gradually turns black at maturity, reaching a length of 1/32 of an inch.

Observations in Utah indicate that nymphs are present in late March. By mid-May the insects are in the third instars and by mid-June they are adults and breeding. The most severe grass bug damage seems to occur during April and May (1).

It was previously thought that damage was done by sucking plant juices and removal of chlorophyl. However, indications from studies now under way indicate that damage may be by injection of toxic substances into the plants.

Very little is known about the life history of the grass bug but current studies by Dr. Austin Haws, Range Entomologist, Utah State University, are underway on material collected from BLM seedings in Utah.

Migration is believed to be slow because the insect is not a strong flyer. Grass bugs have been reported in Montana, Utah, Idaho, Arizona, Nebraska, New Mexico, Oregon, Washington, South Dakota, and Wyoming.

## Nature of Plant Injury

Grasses that should be green during April and May in the early stages of growth become white or yellow if attacked by grass bugs. These areas in Utah resemble wheat stubble fields after harvest. By mid-May the grasses have been discolored and have lost all of their nutritive value.

Short-term infestations do not appear to kill the grass plant. However, continual attacks over a period of several years will kill the plant when food reserves are depleted. If summer rains come the grass will green up depending on the amount of food reserves left after initial growth. Bug populations that damage grasses may develop very rapidly (2).

Attacks seem to be confined to cool season grasses. No infestations of Labops have been reported on warm season native grasses such as grama or galleta.

## Control

### Management:

1. Close grazing reduces grass bug injury during the following season. Implementation of rest-rotation grazing principles should be considered, and grazing systems designed for management control.

2. In revegetation projects mixtures of plants should be used rather than plantings of single species.

3. Where treatment is needed to alter plant communities, revegetation methods should include chaining, harrowing, or cabling which favor propitiation of indigenous herbaceous or shrubby species.

### Chemical Control:

1. Malathion, in a diesel oil carrier, applied by helicopter at a rate of 0.5 lb/acre, has been used (1). Annual applications may be needed which may eliminate natural enemies, thus upsetting the ecosystem.

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